

IN THE CLAIMS:

Please cancel claim 30 and amend claims 21, 24, 26-29 to read as follows:

1. - 20. (Canceled).

21. (Currently Amended) A tubular reactor for catalytic gas phase reactions comprising, in combination:

(a) a heat carrier circulating in a reaction zone around a contact tube bundle inside a reactor jacket, the tube bundle consisting of single piece tubes extending through a first tube plate at the reaction gas inlet side and a second tube plate at the reaction gas outlet side, beginning and ending at the first and second tube plates, respectively, and being sealed with respect to these tube plates, the two tube plates being anchored in an essentially known manner at their edges to the reactor jacket and being sealed with respect to the reactor jacket;

(b) gas inlet and gas outlet hoods spanning the face sides of the first and second tube plates, respectively, the first tube plate having a reaction gas side in contact with the reaction gas and a heat carrier side; and

(c) a heat insulation zone that borders on the heat carrier side of the first tube plate ~~at the gas inlet side~~ and that includes at least one of (1) a chamber containing at least one of a solid, and liquid or gaseous heat insulation material and being separated from the reaction zone by a separator plate which is penetrated by the tubes, the tube penetrations allowing for leakages, and (2) built-in components that are stream-calming with respect to the heat carrier.

22. (Previously Presented) Tubular reactor as set forth in claim 21, wherein the heat insulation zone exhibits a locally varying thickness.

23. (Previously Presented) Tubular reactor as set forth in claim 21, wherein the heat insulation zone exhibits a locally varying structure.

24. (Currently Amended) Tubular reactor as set forth in claim 21, wherein the heat insulation zone is limited to partial tube-free areas of the tube plate on the reaction gas inlet side.

25. (Currently Amended) Tubular reactor as set forth in claim 21, having a heat insulation zone in the form of a chamber, the improvement wherein a liquid ~~or gaseous~~ heat insulation material in said chamber is prevented from circulating by structures installed in said chamber.

26. (Currently Amended) Tubular reactor as set forth in claim 21, having a heat insulation zone in the form of a chamber, the improvement wherein a liquid ~~or gaseous~~ heat insulation material is circulated through said chamber as cooling medium.

27. (Currently Amended) Tubular reactor as set forth in claim 26, wherein a partial stream of the heat carrier circulating around the contact tube bundle is used as said liquid ~~or gaseous~~ heat insulation material.

28. (Currently Amended) Tubular reactor as set forth in claim 21, having a heat insulation zone formed by built-in components, the improvement wherein said components exhibit at least one of a honeycomb or and concentric ring structure.

29. (Currently Amended) Tubular reactor as set forth in claim 28, wherein said components are covered, at least on the side opposite the tube plate on the reaction gas inlet side.

30. (Canceled).

31. (Currently Amended) Tubular reactor as set forth in claim 21, wherein the heat insulation zone is limited to the edge area of the tube plate on the reaction gas inlet side.